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## BUSINESS CONFIDENTIAL

AUTHOR:

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SAMPLE NO: 18-005619

### GPC Analysis of New

#### Summary

In this work the sample was analyzed by GPC to determine the molecular weight distributions, molecular weight averages, peak molecular weights and amounts of polymer below 1,000 & 500 daltons. The method of calculation was equivalent molecular weight using narrow polydimethylsiloxane standards.

The molecular weight distribution of the sample is shown in Figure 1 and the molecular weight distribution slice data is shown in Figure 2. A summary of the results is listed below.

#### *Molecular Weight Averages and Peak Molecular Weights*

<i>Sample</i>	<i>Mn</i>	<i>Mw</i>	<i>Mz</i>	<i>Mp 1</i>	<i>Mp 2</i>
18-005619					

#### *Amounts of Polymer Below 1,000 and 500 Dalton*

<i>Sample</i>	<i>Wt. % Below 1,000 Daltons</i>	<i>Wt. % Below 500 Daltons</i>
18-005619		

## **Experimental**

### **I System**

- I. Solvent and Sample Delivery
  - a. Agilent 1260 Infinity Chromatograph
- II. Detectors
  - a. Agilent 1260 Infinity PDA UV
  - b. Agilent 12600 Infinity ELS Detector
- III. Data Collection – Agilent OpenLab System.
- IV. Data Analysis - In-house custom software.

### **II Columns**

- Manufacturer: Phenomenex
- 2 300x7.8 mm Phenogel linear(2) 10 micron columns with a reported molecular weight range of 100-10,000,000 (polystyrene).
- 1 50x7.8 mm Phenogel linear(2) Guard

### **III Operating Conditions**

- Solvent: chloroform
- Flow rate: 1.0 mL/min.
- Injection volumes: 2 microliters.
- Sample concentrations: 1.0-1.5% by weight.\*

\* All samples are filtered through 0.45 micron disposable filters to remove undissolved particulate matter.

### **IV Calibrations**

- Calibration Set – Narrow Mw Polydimethylsiloxane (9 range 1,500 to 1,350,000)

**Figure 1 – Molecular Weight Distribution of 18-005619**



**Figure 2 – Molecular Weight Distribution Slice of 18-005619** [REDACTED].































